

# Dom Community Forest

CMNTIPA006



Country: Cameroon

Administrative region: Northwest (Region)

Central co-ordinates: 6.35472 N, 10.59889 E

Area: 4.5km<sup>2</sup>

## Qualifying IPA criteria

A(i)

## IPA assessment rationale

Dom Community Forest meets the criteria for an IPA primarily through the presence of several globally threatened species with globally or nationally significant populations. In particular, *Ardisia dom* and *Coleochlola domensis*, both CR, are believed to be globally endemic to the forest. The largest population of *Newtonia camerunensis* (CR) also appears to be at Dom. In total, 26 globally threatened species (including 9 CR) have been recorded from the site, 23 of which qualify under IPA criterion A(i).

The site would also very likely qualify under criterion C as a threatened habitat because of its rarity, along with Bali Ngemba, as a remaining piece of submontane Bamenda Highlands forest, since the latter have been almost comprehensively deforested within this altitudinal zone.

## Site description

The proposed IPA site at Dom, Northwest Region, Cameroon, consists of three community forest patches totalling 452.7 ha. of largely intact, mainly submontane forest between approximately 1450 and 2200 m altitude. These patches are located within the remains of a larger forest in the Kejojang mountains, itself part of the Bamenda Highlands. The latter in turn are geologically part of the Cameroon Highlands, a chain of volcanic prominences stretching from the Atlantic islands of Annobin, Sao Tome, Principe, and Bioko northward to Mount Cameroon, Mount Kupe, Mount Oku and beyond. While, the Bamenda Highlands have been extensively deforested, in large part very recently (Cheek et al., 2000; Harvey et al., 2004), and the Kejojang forest has been estimated to have declined by 50% from 2247ha to 1242ha between 1988 and 2003 (Baena, 2010 in Cheek et al., 2010), further valuable forest likely remains in the Kejojang mountains, particularly to the northeast of the Dom community forests. The latter are connected and encompassed by a wider zone of less intact vegetation where efforts at reforestation of interstitial corridors has been attempted by local people with the assistance of Bamenda-based NGO Apiculture and Nature Conservation Organisation (ANCO) (Cheek et al., 2010). Some of the threatened taxa listed here are known from such areas, especially that around Kejojang rock, and the proposed IPA area therefore incorporates a wider area than the community forests strictly defined. Further extension northeast to the forest associated with the village of Mbinon, might also be warranted.

Dom is located in Noni subdivision, northwest of Kumbo. The administrative centre of Noni is at Nkor, where the Divisional Officer is based. The community of Dom consists of six settlements, Mbam, Nkale, Sanghere, Chaw, Nsusi and Kifume. The latter settlement (at c. 6°21'33"N, 10°35'34"E) is home to the Fon of Dom and was the base for the surveys which resulted in the data listed here. The three forest patches, from south to north, are Kowi, Nvui (Sagnere) and Nsusi (Sousi).

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## Botanical significance

Despite the complete lack of botanical surveying and specimen collecting by Western scientists at Dom prior to the surveys performed at the instigation of ANCO by the RBG Kew team between 2005 and 2006, Dom is a rare and important remnant of montane and particularly submontane forest in the now largely denuded Bamenda Highlands. The latter, historically probably one of the most species rich areas in tropical Africa, has experienced approximately 93% loss of forest above 1500m (Harvey et al., 2004). In the more immediate vicinity of Dom, the Kejodsang forest area is calculated to have been reduced by 50% in six years between 1987 and 1993 (Cheek et al., 2010).

Twenty-six IUCN globally threatened species (plus three provisionally assessed as threatened) have been recorded from Dom in the very limited surveying that has taken place over three field expeditions and subsequent work by local collaborators (the montane forest element in particular has been very inadequately surveyed). Nine of these taxa are Critically Endangered. Particularly notable are *Ardisia Dom* (Cheek, 2010; Cheek, 2017) and *Coleochlola domensis* (Musaya et al., 2010; Cheek et al., 2017) which are believed to be endemic to the site. Six other threatened species are national endemics, while many others, such as *Dombeya ledermanni* (VU), *Oxyanthus okuensis* (CR) and *Psychotria moseskemei* (CR) are recorded only from the Bamenda Highlands or adjacent areas in Nigeria such as the Mambilla plateau (Cheek et al., 2010). Many species found at Dom have not been seen for decades at other recorded sites which have often suffered major forest loss. For example, *Antidesma pachybotryum* (CR, Lovell & Cheek, 2020) has not been seen for 50 years except for its rediscovery at Dom, while *Newtonia cameroonensis* (CR), an important timber species, believed to be lost at its historically recorded sites, was rediscovered at Bali Ngemba and Laikom and then found to be most abundant at Dom (Cheek et al., 2010).

The only relatively well protected area in the Bamenda Highlands is Kilum Ijim and there only above 2000m (Cheek et al., 2000). Only at Bali Ngemba is there otherwise some (limited) protection for submontane forest below 2000 m (Harvey et al., 2004). However, it is notable that there are major differences in the suite of species at Dom compared to the apparently similar forest at Bali-Ngemba, likely due to species reaching their northern or southern latitudinal ranges. The Critically Endangered *Antidesma pachybotrium* (Euphorbiaceae) is one notable example not found at Bali Ngemba.

## Habitat and geology

The forest at Dom is located above a steep escarpment that forms the boundary between a "High Lava Plateau" of former montane forest, now largely derived grassland, and a lower lava surface, now vegetated mainly with savannah and shrub (Cheek et al., 2010). The High Plateau continues to rise to the east and the site has a predominantly west facing slope. Dom is part of the Bamenda Highlands which is the largest part of the Cameroon Highlands, a series of mountains and hills following a geological fault connecting Bioko, Mount Cameroon, Mount Kupe and Mount Oku to the south and continuing north to the Mambilla plateau of Nigeria before turning eastwards. Although the Bamenda Highlands are apparently formed of Tertiary era basalts and trachytes (Courade 1974), the Dom area is thought to lie on uplifted and exposed pre-Cambrian basement rock (Courade 1974, Cheek 2010). Soils of the Bamenda Highlands are moderately fertile volcanic soils, more clayey than elsewhere, enabling more permanent streams (Tye, 1986). The site lies on the western side of the mountains and therefore experiences relatively high rainfall falling in a single rainy season between April and October. Although local data is lacking, mean annual totals from Kilum, Ijim and Bamenda to the south are around 2200–2400 mm (Forboseh et al. 2003; World Meteorological Organization, 2021). Mist is common. Mean maximum and minimum temperatures are 20–22 °C and 13–14 °C respectively with some ground frost possible in narrow valleys at night (Cheek et al., 2010).

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## Conservation issues

The submontane forest at Dom is predominantly found within three patches of community forest which are valued by local people and monitored also by ANCO. While community stewardship and the efforts of ANCO have been effective, some areas where forest had been cut and burnt for crops were seen by the surveying teams between 2005-6. Introduced *Coffea arabica* was also being grown in places as an understory crop within the forest. Spread of wildfire from the surrounding grassland and roaming of grazing cattle are potential problems, with some replanted areas suffering losses from these (Cheek et al., 2010).

While survival of the Dom forest patches looks promising due to the efforts of the local people and ANCO, the decline of the wider Kejodsam (Kejojang) forest has been rapid. Between 1987 and 1994 Mackay (1994) notes that the forest declined from c. 30 km<sup>2</sup> to c. 5 km<sup>2</sup> and a later Birdlife survey reported a further decline to c. 5 ha by 2000. However, since nearly 5 km<sup>2</sup> remains at Dom, the latter estimate at least was over-pessimistic. Baena (in Cheek et al., 2010) estimates a 50% decline between 1988 and 2003, with an additional c. 8 km<sup>2</sup> remaining outside of the Dom enclaves.

The increasing isolation of the Dom forest patches may represent an impediment to the long term survival of some species and associated wildlife. ANCO has undertaken work to improve or maintain corridors connecting the forest patches with each other and with the rest of the remaining Kejodsam forest (Cheek et al., 2010; pers. comm. K. Tah, 2020). There are also areas of non-native,

invasive Eucalyptus within the Dom area which are being targeted for removal and replanting by the communities. Some important surveyed areas also lie outside of the community forests, including the area around Kejojang Rock, where several rare and threatened species were found. These areas are considered part of the potential IPA zone identified here. Conservation of additional forest area to the North would likely add considerably to the conservation value and long term resilience of the forest.

Overall, Dom stands as a positive example of the community forest model for conservation and there may be much to learn from it given the high expectations and limited success of this model elsewhere.

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### **Site assessor(s)**

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## IPA criterion A species

SPECIES	QUALIFYING SUB-CRITERION	≥ 1% OF GLOBAL POPULATION	≥ 5% OF NATIONAL POPULATION	1 OF 5 BEST SITES NATIONALLY	ENTIRE GLOBAL POPULATION	SOCIO-ECONOMICALLY IMPORTANT	ABUNDANCE AT SITE
<i>Allophylus ujori</i> Cheek	A(i)	✓	✓	✓	–	–	
<i>Allophylus bullatus</i> Radlk.	A(i), A(iii)	✓	–	✓	–	–	
<i>Antidesma pachybotryum</i> Pax & K.Hoffm.	A(i)	✓	✓	✓	–	–	
<i>Ardisia dom</i> Cheek	A(i)	✓	✓	✓	✓	–	
<i>Bulbophyllum calvum</i> Summerh.	A(i)	✓	–	✓	–	–	
<i>Bulbostylis densa</i> (Wall.) Hand.-Mazz. var. <i>cameroonensis</i> S.S.Hooper	A(i)	✓	✓	✓	–	–	
<i>Chassalia laikomensis</i> Cheek	A(i), A(iii)	✓	–	✓	–	–	
<i>Coleochloa domensis</i> Muasya & D.A.Simpson	A(i)	✓	✓	✓	✓	–	
<i>Crassocephalum bauchiense</i> (Hutch.) Milne-Redh.	A(i)	–	–	✓	–	–	
<i>Dombeya ledermannii</i> Engl.	A(i)	✓	✓	✓	–	–	
<i>Entandrophragma angolense</i> (Welw.) C.DC.	A(i)	–	–	–	–	✓	
<i>Epistemma decurrens</i> H.Huber	A(i)	✓	–	✓	–	–	
<i>Eugenia gilgii</i> Engl. & Brehme	A(i)	✓	–	✓	–	–	
<i>Habenaria nigrescens</i> Summerh.	A(i)	✓	✓	–	–	–	
<i>Lobelia columnaris</i> Hook.f.	A(i)	–	–	✓	–	–	
<i>Morella arborea</i> (Hutch.) Cheek	A(i)	✓	–	✓	–	–	
<i>Newtonia camerunensis</i> Villiers	A(i)	✓	✓	✓	–	–	

SPECIES	QUALIFYING SUB-CRITERION	≥ 1% OF GLOBAL POPULATION	≥ 5% OF NATIONAL POPULATION	1 OF 5 BEST SITES NATIONALLY	ENTIRE GLOBAL POPULATION	SOCIO-ECONOMICALLY IMPORTANT	ABUNDANCE AT SITE
<i>Oxyanthus okuensis</i> Cheek & Sonké	A(i)	✓	✓	✓	–	–	
<i>Panicum acrotrichum</i> Hook.f.	A(i)	–	–	✓	–	–	
<i>Pavetta hookeriana</i> Hiern var. <i>hookeriana</i>	A(i)	✓	–	✓	–	–	
<i>Pararistolochia ceropegjioides</i> (S.Moore) Hutch. & Dalziel	A(i)	✓	–	✓	–	–	
<i>Psychotria moseskemei</i> Cheek	A(i)	✓	✓	✓	–	–	
<i>Deinbollia onanae</i> Cheek	A(i)	✓	✓	✓	–	–	
<i>Diaphananthe bueae</i> (Schltr.) Schltr.	A(i)	✓	–	–	–	–	

## IPA criterion C qualifying habitats

HABITAT	QUALIFYING SUB-CRITERION	≥ 5% OF NATIONAL RESOURCE	≥ 10% OF NATIONAL RESOURCE	1 OF 5 BEST SITES NATIONALLY	AREAL COVERAGE AT SITE
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## General site habitats

GENERAL SITE HABITAT	PERCENT COVERAGE	IMPORTANCE
Forest - Subtropical/Tropical Moist Montane Forest	65	Major
Rocky Areas - Rocky Areas [e.g. inland cliffs, mountain peaks]	10	Unknown
Grassland - Subtropical/Tropical High Altitude Grassland	5	Minor
Shrubland - Subtropical/Tropical High Altitude Shrubland	5	Minor
Artificial - Terrestrial - Subtropical/Tropical Heavily Degraded Former Forest	15	Minor

## Land use types

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE
Nature conservation	100	Major
Harvesting of wild resources	70	

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE
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## Threats

THREAT	SEVERITY	TIMING
Agriculture & aquaculture - Annual & perennial non-timber crops - Shifting agriculture	Medium	Past, not likely to return
Natural system modifications - Fire & fire suppression - Increase in fire frequency/intensity	Low	Past, likely to return
Invasive & other problematic species, genes & diseases - Invasive non-native/alien species/diseases - Named species	Low	Ongoing - declining
Biological resource use - Logging & wood harvesting	Low	Ongoing - declining
Agriculture & aquaculture - Livestock farming & ranching - Nomadic grazing	Low	Ongoing - trend unknown
Human intrusions & disturbance - War, civil unrest & military exercises	Unknown	Ongoing - trend unknown

## Protected areas

PROTECTED AREA NAME	PROTECTED AREA TYPE	RELATIONSHIP WITH IPA	AREAL OVERLAP
Dom Community Forest	Community conservation area	IPA encompasses protected/conservation area	100

## Management type

MANAGEMENT TYPE	DESCRIPTION	YEAR STARTED	YEAR FINISHED
Site management plan in place		–	–

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